

COURSE SYLLABUS



COURSE TITLE: ICS 226 - Network and Server-Side Programming

CLASS SECTION: All

TERM: Fall 2022

COURSE CREDITS: 3

DELIVERY METHOD(S): In class

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

The COVID-19 pandemic has presented many challenges, and Camosun College is committed to helping you safely complete your education. Following guidelines from the Provincial Health Officer, WorkSafe BC, and the B.C. Government to ensure the health and wellbeing of students and employees, Camosun College is determined to keep you safe. For details on current precautions, please follow this link:

<http://camosun.ca/covid19/faq/covid-fags-students.html>. However, if you're at all uncomfortable being on campus, please share your concerns with your instructor. If needed, alternatives will be discussed.

Camosun College requires mandatory attendance for the first class of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Michael Horie

EMAIL: horiem@camosun.bc.ca

OFFICE: TEC 246 or online

HOURS: By appointment

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

Explore various topics and issues involved in networks and server programming. You will develop and deploy networked programs using current communication trends including socket programming, secure socket layer certificates and data encryption and compression.

PREREQUISITE(S): C+ in ICS 124, C in ICS 126

CO-REQUISITE(S): N/A

EXCLUSION(S): N/A

COURSE LEARNING OUTCOMES / OBJECTIVES

- *Implement specific network programming constructs to create robust real-world sockets-based applications;*
- *Design, implement, test, and deploy client/server programs in a variety of languages and platforms;*
- *Describe and apply a variety of network and server-side concepts such as multitasking, multithreading, inter-process communication and network communications;*
- *Describe the difference between long-term and short-term communication sessions; and*
- *Apply accepted standards to ensure security, privacy, and integrity of data while recognizing the ethical, legal, and social implications of network programming.*

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Required:

A Pi-compatible MicroSD card with Raspberry Pi OS

Recommended:

B Rhodes and J Goerzen, Foundations of Python Network Programming, 3rd ed, Apress, 2014

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK or DATE RANGE	ACTIVITY or TOPIC	OTHER NOTES
Sep 6 (X01AB), Sep 12 (X02AB)	Course introduction; Python review	Labs start Sep 6
Sep 13 (X01AB), Sep 19 (X02AB)	Python sockets; 5 Star Scale; TCP/IP review	
Sep 20 (X01AB), Sep 26 (X02AB)	Python data encoding and compression	Lab 1 due Oct 1
Oct 4 (X01AB), Oct 3 (X02AB)	Midterm 1	Lab 2 due Oct 8
Oct 11 (X01AB), Oct 17 (X02AB)	Python multithreading; Python encryption and TLS	
Oct 18 (X01AB), Oct 24 (X02AB)	Asyncio and other advanced Python topics; debugging strategies	Lab 3 due Oct 29
Oct 25 (X01AB), Oct 31 (X02AB)	Testing and deployment of Python programs; long-term connections	Lab 4 due Nov 5
Nov 8 (X01AB), Nov 7 (X02AB)	Midterm 2	Lab 5 due Nov 12
Nov 15 (X01AB), Nov 14 (X02AB)	IPv6; Java sockets (incl. data encoding and compression)	Lab 6 due Nov 19
Nov 22 (X01AB), Nov 21 (X02AB)	Java encryption; Java testing	Lab 7 due Nov 26
Nov 29 (X01AB), Nov 28 (X02AB)	Java maps, lambda expressions, and HttpRequest; Java multithreading	Lab 8 due Dec 3
Dec 6 (X01AB), Dec 5 (X02AB)	Java socket channels; deployment of Java programs	Labs 9 and 10 due Dec 10
TBA by Camosun	Final exam	

Note that X01A and X01B will not meet on Sep 27 and Nov 1 . This is due to X02A and X02B lectures falling on Labour Day and Thanksgiving Day.

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is required. Deadlines can be reviewed on the CAL exams page at <https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams>.

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Lab Work	20%
Midterms	40%
Final Exam	40%
	TOTAL
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me within 7 days of the grade being posted. Refer to the [Grade Review and Appeals Policy E-1.14](#) for more information.

In exceptional circumstances, the final exam mark may be applied to missed labs or midterms at the discretion of the instructor.

COURSE GUIDELINES & EXPECTATIONS

Lab time is reserved for working on ICS 226 labs.

SCHOOL OR DEPARTMENTAL INFORMATION

Academic Dishonesty:

1st violation: Minus the weight of the deliverable and a note on your departmental file

2nd violation: "F" in the course

3rd violation: [Student Misconduct Policy E-2.5](#) is applied

Electronic Devices: A student who has a cell phone or other unauthorized electronic device (e.g., tablet, laptop) on their person or around their desk during an exam will be guilty of cheating and will receive a grade of "F" in the course.

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Support Service	Website
Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (physical, depression, learning, etc.). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.1_0.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space will be offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures"

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-370-3841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.